

Applicants : Kevin D. Parris et al.  
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#### REMARKS

Claims 15-22 and 35-84 are pending in the subject application. Claims 18 and 22 have been withdrawn from consideration by the Examiner as directed to non-elected subject matter. By this Amendment applicants have amended claims 15, 19, 35, 68, 71 and 74, and added new claims 85-90. Accordingly, upon entry of this Amendment, claims 15-22 and 35-84, as amended, and new claims 85-90 will be pending; and claims 15-17, 19-21, and 35-90 will be under examination.

Applicants maintain that the amendments to the title and to the claims do not raise an issue of new matter. Support for new claims 85-90 can be found *inter alia* in the specification on page 11, line 9. Support for the remaining amendments to the claims can be found in the previous version of the claims. Accordingly, applicants respectfully request that the Amendments be entered.

#### Objection to the Title

On page 2 of the Office Action, the Examiner objected to the title as not descriptive of the claimed subject matter.

Applicants have hereinabove amended the title to recite "METHODS FOR IDENTIFYING AN AGENT THAT INTERACTS WITH AN ACTIVE SITE OF ACYL CARRIER PROTEIN SYNTHASE OR ACYL CARRIER PROTEIN SYNTHASE COMPLEX". Applicants maintain that the amended title is descriptive of the claimed subject matter and accordingly respectfully request that this objection be withdrawn.

#### Objection to the Claims

On page 2 of the Office Action, the Examiner objected to claims 15, 19, 35, 68, 71 and 74. The Examiner stated that the conjunction "and" is needed between the phrases "in step (b)" and " $\pm$  a root mean square..."

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Applicants have hereinabove amended claims 15, 19, 35, 68, 71 and 74 to recite "in step (b), and  $\pm$  a root mean square...". Accordingly, applicants respectfully request that this objection be withdrawn.

#### Rejections under 35 U.S.C. §112, Second Paragraph

On page 2 of the Office Action, the Examiner rejected claims 15-17, 19-21 and 35-84 under 35 U.S.C. §112, second paragraph. The Examiner stated that the phrase "relative structural coordinates" in claims 15, 19, 35, 68, 71 and 74 renders the claims vague and indefinite because it is unclear how the structural coordinates are related to each other.

Applicants have hereinabove amended claims 15, 19, 35, 68, 71 and 74 to delete the word "relative" from the phrase "relative structural coordinates". Applicants maintain that the amended claims particularly point out and distinctly claim the subject matter that applicants regard as the invention. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection.

#### Rejections under 35 U.S.C. §112, First Paragraph

On page 3 of the Office Action, the Examiner rejected claims 15-17, 19-21 and 35-84 under 35 U.S.C. §112, first paragraph, as not enabled for the full scope of the claims. The Examiner stated that while the specification is enabling for a crystal structure of ACPS and ACPS-CoA complex, which have atom coordinates instantly disclosed (Figures 1-2A-19), where ACPS is cloned and isolated from *B. subtilis*, the specification does not reasonably provide enablement for identifying an agent that interacts with an active site of ACPS or ACPS-CoA where ACPS is cloned and isolated from any other organism.

Applicants respectfully traverse this rejection.

The specification teaches how to prepare crystallized ACPS and ACPS-CoA where ACPS is obtained from *B. subtilis* (see page 22, line 20 through page 26 of specification).

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Applicants note that ACPS is well conserved especially around the ACP and CoA binding sites for all bacteria where sequences are available. Applicants maintain that given the teachings of the instant specification, the skilled artisan could obtain ACPS from another bacterial species and use it to obtain crystallized ACPS and crystallized ACPS-CoA and to identify agents that interact with an active site of ACPS or ACPS-CoA without undue experimentation. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

#### Rejections under 35 U.S.C. §103(a)

On page 6 of the Office Action, the Examiner maintained the rejection of claims 15-17 and 19-21 under 35 U.S.C. §103(a) as being unpatentable over Rosowsky et al. (1999) in view of *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983) taken with Ahern (The Scientist, 1996). The Examiner also extended the rejection to claims 35-84, which were added in applicants' prior response. The Examiner reiterated that the specific limitations of crystal structural coordinates and the three dimensional model of ACPS in the instant case do not distinguish the invention from the prior art in terms of patentability because they are descriptive nonfunctional subject matter.

Applicants respectfully traverse this rejection for the following reasons. Applicants note that the U.S. Patent Office considers claims of the following form to be both novel and nonobvious:

A crystalline form of protein P having unit cell dimensions of a=4.0nm, b=7.8nm, and c=11.0nm.

The Examiner's attention is directed to a discussion of this claim as Case 4: Crystals of known proteins, in Trilateral Project WM4, Comparative studies in new technologies, Report on comparative study on protein 3-dimensional (3-D) structure related claims,

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European Patent Office, Japan Patent Office, United States Patent and Trademark Office,  
Vienna, Austria, November 4-8, 2002.

Applicants note that step (a) of claims 15 and 68 recites:

“obtaining a crystallized ACPS, wherein the crystallized ACPS is characterized as being in plate form with space group  $P2_1$ , and having unit cell parameters of  $a=76.26\text{\AA}$ ,  $b=76.16\text{\AA}$ ,  $c=85.69\text{\AA}$ , and  $\beta=93.3^\circ$ ...”.

Similarly, step (a) of claims 19, 35, 71 and 74 recites:

“obtaining a crystallized complex comprising acyl carrier protein synthase (ACPS) and coenzyme A (CoA), wherein the crystallized complex is characterized as being in pyramidal form with space group  $R3$ , and having unit cell parameters of  $a=b=55.82\text{\AA}$  and  $c=92.28\text{\AA}$ ...”.

Applicants maintain that the crystallized ACPS and the crystallized ACPS-CoA complex as recited and characterized in the instant claims are analogous to the crystalline form of protein P recited and characterized in Case 4 hereinabove and accordingly that the instantly recited crystallized ACPS and crystallized ACPS-CoA complex are novel and nonobvious. Further, applicants maintain that if the crystallized ACPS and the crystallized ACPS-CoA complex as recited and characterized in the instant claims are novel and nonobvious, then the use of said crystallized ACPS and crystallized ACPS-CoA complex in the claimed methods should render the claims novel and nonobvious.

Applicants maintain that the references cited by the Examiner do not teach or suggest each and every element of the claimed invention. In particular, applicants maintain that cited references do not teach or suggest *inter alia* step (a) of independent claims 15, 19, 35, 68, 71, and 74. Accordingly, applicants maintain that the claims as a whole are not rendered obvious by the cited references.

Applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection.

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### CONCLUSIONS

In view of the amendments and remarks made hereinabove, applicants respectfully request that the Examiner reconsider and withdraw the objections and rejections set forth in the May 15, 2003 Office Action and earnestly solicit allowance of the claims now under examination, i.e. claims 15-17, 19-21, and 35-90.

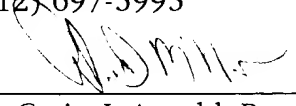
Further, once independent claims 15 and 19 are determined to be allowable, applicants repeat their previous request that, pursuant to MPEP §809.04, the Examiner examine dependent claims 18 and 22 on the merits.

A check for \$108.00 is enclosed to cover the fee for filing 6 claims in addition to the maximum number previously paid for (\$18.00 per excess claim). No other fee is deemed necessary in connection with the filing of this Amendment. However, if any other fee is required to preserve the pendency of the subject application, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 01-1785.

Respectfully submitted,

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